APPENDIX B SYMBOL CODING

- 1. <u>General</u>. Symbol codes have been developed to assist the C4I or weapons system operators in displaying a standard set of symbols. Since most symbols are constructed of components, standard and user-identified, a symbol code or icon identifier is used in conjunction with a database structure to construct the required symbols. When associated with a software package (drawing instructions/database structure), the ICON ID will facilitate the display of standard symbols or icons based on operator input. (Note: This appendix is designed for use with the Graphical Situation Display (GSD) software package being developed for DOD under the direction of ASD/C3I. Beta release was August 1994 with production version scheduled for release in January 1995.)
- Icon identifier (ICON ID). The ICON ID is a 12-character alpha/numeric code that provides the minimum information needed for an automated display system to construct a specific symbol or icon. The first character in the icon identifier code provides the affiliation (hostile, friendly, neutral, etc). The second character identifies the battlespace dimension as either air/space, surface (land/sea), or subsurface. The third character identifies the position as either "present" (drawn with a solid line) or "anticipated/planned" (drawn with a dashed line). The affiliation plus dimension plus position codes determine the applicable symbol frame as shown in Section 5.3.1, Tables 1 and 2. The fourth character identifies the basic type as military, civilian, equipment, installation, points, boundaries, etc, and, when combined with the remaining characters in the code, identify the embedded icons found in Section 5.4, Table 11. The basic type character also defines the path or tables from which the remaining codes will be selected. Table B-1 depicts the format of the icon identifier and, along with Tables B-2 through B-4, provides the possible values for the first four characters of the code. Tables B-5 through B-20, along with Table B-22, Battlefield geometry (lines, boundaries, areas, obstacles) and Table B-23, Fire Support, define the values for characters 5 through 8, based upon the primary and secondary roles of the object being displayed. Table B-21 contains the values for character 9, currently used to designate size of the land units. The remaining three characters are unassigned and are designated for future use.
- 3. The user has several options when selecting and representing the ICON ID, depending on the requirements of the symbol to be displayed. To maintain the integrity of the coding scheme, it is essential to insert null values where characters are not required. For example, when a framed symbol is required, characters 1 through 4 would most likely be filled with a value from one of the tables. "Primary or secondary roles" (characters 5 through 8) and "size" (character 9) would be optional, depending on the level of detail desired by the user. Unframed symbols such as equipment or points might use only characters 3 through 9 (depending on the level of detail required), leaving characters 1 and 2 as a null value.
- 4. The following tables provide the assigned values for each character within the ICON ID code. Table B-1 provides the structure and composition of the ICON ID, with the remaining tables providing the code values. The 12 character code is depicted at the top of each table (in parentheses). The blank (_) represents the character position within the code where the values from that table are to be placed. The asterisk (*) represents either other required or null values necessary for the completion of the desired symbol.

TABLE B-1. ICON ID composition.

ON D: <u>1</u>	_2_	_3_	4	<u>5 6 7 8</u>	_9_	10 11 12
Affiliatio	Dimension	Position	Basic Type	Primary/Secondary Roles	Size	TBD
Hostile (H)	Land (L)	Present (P)	Areas (A)	Tables B-5 thru B-20	Table B-21	
Unknow (U)	Air (A)	Anticipated (A)	Bearing (B)	Table B-22		
Neutral (N)	Space (O)	HQ Present (H)	Boundary (T)			
Friendly (F)	Surface (S)	HQ Planned (Q)	Civilian (C)			
Suspect (S)	Sub-Surface (U)	Table B-4	Equipment (E)			
Pending (P)	Other (X)		Installation (I)			
Assumed Friendly (A)	Table B-3		Lines (L)			
None Specified (O)			Military (M)			
Table B-	<u> </u>		NBC (N)			
			Points (P)			
			Units (U)			
			Table B-5			

TABLE B-2. <u>Affiliation and Dimension</u>. (_ _ ********)

Dimension	AIR	SPACE		SURFACE		SUB- SURFACE
			LA	ND	SEA	20121102
Affiliation			Units	Installations		
Pending	?	?	?	?	?	?
(CODE)	(PA********)	(PO********)	(PL********)	(PL*I*******)	(PS********)	(PU********)
Unknown						
(CODE)	(UA*******)	(UO*******)	(UL********)	(UL*I*******)	(US*******)	(UU********)
Assumed Friend (CODE)	? (AA*******)	? (AO********)	(AL*******)	? (AL*I*******)	? (AS*********)	(AU********)
Friend (CODE)	(FA*********)	(FO********)	(FL********)	(FL*I*******)	(FS*******)	(FU*******)
Neutral (CODE)	(NA********)	(NO**********)	(NL*******)	(NL*I******)	(NS******)	(NU*******)
Suspect	?	?	○ ?		○ ?	?
(CODE)	(SA*******)	(SO*******)	(SL*******)	(SL*I******)	(SS********)	(SU*******)
Hostile	\wedge	\wedge	\Diamond	$ \diamondsuit $	\Diamond	\bigvee
(CODE)	(HA********)	(HO********)	(HL********)	(HL*I******)	(HS********)	(HU********)

TABLE B-3. <u>Position</u>. (** _ ********)

Position	Code	Symbol (example)
Present Position (1)	P	
Planned/Anticipated Position (2)	A	

Note:

(1) Present positions are represented by a solid line.

(2) Planned or anticipated positions are represented by a dashed line.

TABLE B-4. <u>Basic type</u>. (*** _ *******)

		Affiliation	Dimension	Position	Basic Type
	Air Civilian	*	A	*	C
AIR	Air Combat	*	A	*	M
	Space Civilian	*	О	*	C
	Space Military	*	0	*	M
LAND	Land Installations	*	L	*	I
	Land Units	*	L	*	U
	Surface Combatant	*	S	*	M
	Surface Non-Naval	*	S	*	C
SEA	SubSurface Combat	*	U	*	M
	Sub Surface Non- Naval	*	U	*	С
EQUIPMENT	Equipment (1)	*	*	*	Е
	Areas/obstacles	*	X	*	A
	Lines	*	X	*	L
OTHER	Boundaries	*	X	*	Т
	Bearings	*	X	*	В
	NBC	*	X	*	N
	Points	*	X	*	P
	Size	*	*	*	*

Notes: 1 - User has the option to display equipment as framed or unframed.

TABLE B-5. <u>Air Combat (subroles)</u>. (*A*M _ _ _ _ ****)

Embedded Icon	Code	Embedded Icon	Code
Decoy	DE	Helicopter:	
Fixed Wing:	FW	Attack	НЕНА
AEW	AE	ASUW	НЕНА
ASW	FA	ASW	НЕНА
Attack/Strike	AS	Support	HEHS
Bomber	BO	MCM	HEHS
Command	C2	SAR	HEHS
ECM/Jammer	EJ	RECON	HEHS
ESM	ES	Transport	НЕНТ
Fighter	FI	Missiles in Flight	MF
Ground Support	FG	Unmanned Air Vehicle	UA
Interceptor	IC	Communication	UC
MPA	MP	Electronic	UE
RECON	RA	Recon	UR
Tanker	TK	Lighter Than Air	LA
Transport	TR		

TABLE B-6. <u>Air civilian (subroles)</u>. (*A*___ ******)

Embedded Icon	Code
Air Civilian:	C
Lighter than air	_ LA
Fixed wing	_ FW
Helicopter	_ HE

TABLE B-7. <u>Space</u>. (*O*_ *******)

Embedded Icon	Code
Satellite Civilian	С
Satellite Military	M

TABLE B-8. <u>Land_units_(subroles)</u>. (*L*U____ ****)

Embedded Icon	Code	Embedded Icon	Code
Air Defense	97	Pay/Finance	41
Anti-tank	81	Personnel Services	86
Artillery	39	Pipeline	87
Amphibious	18	Postal/Courier	88
Air Mobile	82	Psychological	59
Air Transportable	13	Quartermaster	61
Armor	22	Recon	28
Bridging	27	Reinforcement/ Replacement	89
Infantry	42	Signal/Commo	66
Mechanized Inf.	44	Sound Ranging	67
Combat Service Spt. (Corps and below)	5	Supply	69
Combat Service Spt. (Theater)	6	Topographic	77
Electronic Ranging	83	Transportation	78
Electronic Warfare	38	Veterinary	98
Engineer	37	Special Operations	91
Medical	50	Special Ops - AF	92
Meteorological	51	Special Ops - Army	93
Military Police	54	Special Ops - Navy	94
Mil/Civil Affairs	84	Labour Resources	99
Missile Unit	75	Maintenance	49
Mountain Unit	56	Headquarters	2
NBC Unit	29	Marines	95
Ordnance	57	Navy	96
Parachute	85	Air Force	AF
		Coast Guard	CG
		Army	US

Note: Symbol may be defined using a combination of the above codes.

TABLE B-9. <u>Land installations (subroles)</u>. (*L*I _ _ _ _ ****)

Embedded Icon	Code	Embedded Icon	Code
Supply	69	Hospital	E2
Fuel	58	Medical	50
Ammunition	DK	Laundry/Bath	EC
Maintenance	49	Radar	B9
Spare parts	A8	Air Defense Radar	B1
Bridging	27	Artillery Locating	B2
Chemical Storage	DN	Ground Sensor/Surv. Radar	В6
Decontamination	A3	Electronic Warfare	B5
Engineer	37	Signal/Commo	C3
Movement Control	78	Target Designator	C4
Nuclear Storage	DO	Direction Finding	B4
Water	E7	Emitting	BA
Burial	E1	Intercepting	B7
Food	EB	Jamming	В8

(Note: Symbol may be defined using a combination of the above codes.)

TABLE B-10. <u>Sea_surface/combat_(subroles)</u>. (*S*M_ _ ******)

Embedded Icon	Icon Code	Embedded Symbol	Icon Code
Amphibious Warfare	AW	MCM Drone	MD
Assault Vessel	LA	MCM Support	MA
Battleship	ВВ	Mine Warfare	MW
Carrier	CA	Minehunter	МН
Combatant	СВ	Minelayer	ML
Cruiser	CC	Minesweeper	MS
Decoy	DE	Non-Combatant	NC
Destroyer	DD	Own Track	OW
Fleet Support	AS	Patrol	PT
Frigate/Corvette	FF	Patrol ASW	PC
Hospital Ship	АН	Patrol ASUW	PU
Intelligence	JI	Sea Anomaly	SA
Landing Craft	LC	Navy Group	NG
Landing Ship	LS	Navy Task Force	TF
Hovercraft	НС	Navy Task Group	NG
Line	LI	Navy Task Unit	TU
Underway Replenishment	AR	Convoy	СО
Service & Support Harbour	YY		

TABLE B-11. Sea surface non-Naval (subroles). (*S*C _ _ _ ****)

Embedded Icon	Code	Embedded Icon	Code
Fishing:	FI	Merchant:	ME
Dredge	DR	Cargo	CO
Drifter	DF	Ferry	FE
Trawler	TR	HAZMAT	HM
Leisure:	LE	Oiler/tanker	OT
Law Enforcement:	MEPT	Passenger	PA
Multi-purpose:		RORO	RO
Hovercraft	HC	Towing Vessel	TV
		Tug	TU

TABLE B-12. Sea sub-surface/combat (subroles). (* $^*U^*M_{____}$ ****)

Embedded Icon	Code
Own Track	OW
Decoy:	DE
Mine	MI
Underwater	UD
Diver	DI
Mines:	MI
Sea Mine	SM
Classified By Position	CT
Dealt	DL
Floating	FL
Moored	MO
Other	OT
Sea Ground	SG
Sea Anomaly	SA
Conventional Propulsion	СР
Nuclear Propulsion	NO
Other Submersible	OS
Submarine	SU
Torpedo	ТО

TABLE B-13. Sea sub-surface non-Naval (subroles). $(*U*C_{___} *****)$

Embedded Icon	Code
Bottom Returns:	BR
Manmade/NOMBO	MM
Seabed Rock/Stone	ST
Wreck	WR
Sea Anomaly	SA
Marine Life	MA

TABLE B-14. <u>Equipment</u>. (***E _ _ _ _ ****)

Embedded Icon	Code	Embedded Icon	Code
Anti-Tank Gun	AT	Railway Mobility Indicator	RO
Flame Thrower	FL	Towed Vehicle Mobility Indicator	ТО
Gun or Howitzer	НО	Tracked Mobiilty Indicator	PO
Machine Gun	MG	Wheeled Mobility Indicator	WO
Anti-Tank Rocket Launcher	AR	Wheeled X-Country Mobility Indicator	СО
Anti-Tank Missile Launcher	AM	Wheeled/Track Combination	МО
Mortar	МО	Tank	TL
SAM Launcher	SA	MICV/IFV	BI
SSM Launcher	SS	APC	AP
Amphibious Mobility Indicator	AO	Unprotected Vehicle	UV
Oversnow Mobility Indicator	SO		

Note: Symbol may defined using a combination of the above codes.

TABLE 15. <u>Bearings</u>. (*X*B_ _ ******)

Bearing	Code
Bearing	BR
ECM	EM
EM Intercept	EM
Acoustic	AI
Torpedo	ТО
Electro-optical	EO
ESM Radar	EM
ESM Comms	EM
Communication	AI
Sonar	AI
Propulsion	AI

TABLE B-16. <u>NBC</u>. (*X*N_ _ ******)

Embedded Icon	Code
Nuclear (Planned Strike)	AN
Nuclear (Actual Strike)	PN
Biological Event	BE
Chemical Event	CE
Unknown NBC Event	NU

TABLE B-17. Points - collection (subroles). (*X*P____ ****)

Embedded Icon	Code
Collection:	CC
Ambulance Exchange	ABX
Cannibalization	CB
Casualty	CCP
Civilian	CI
Decon Station	DS
Maintenance	MA
Enemy Prisoners of war	PW
Salvage	SA
Stragglers	CS
Unit Maintenance	UMC

TABLE B-18. <u>Points - fix (subroles)</u>. (*X*P_ _ _ _ ****)

Icon	Code
Fix:	FX
AEW	AE
Communications	AI
Checkpoint	CC
DLRP	DL
Datum	DA
Electromagnetic	EM
Electro-optical	EO
Fix	FI

TABLE B-19. <u>Points - marking</u>. (subroles) (*X*P____ ****)

Icon	Code
Marking:	MK
Air Field Army	AI
Cap	CA
Distressed Vessel	DV
Ditched A/C	DI
Earthwork	EA
Kingpin	KP
Harbour	SP
Route	SP
Ground Zero	GZ
MSL Detect Pt.	MS
Person in water	MW
Navigational	NA
Oilrig	OR
Iceberg	IB
Pop-up	PU
Sea Minelike	SM
Sinker	SI
Sonobuoy	SO
Station	SN
Surface Shelter	SS
Underground Shelter	US
Plan Point Demo	DM
Prepared Demo Stage 1	DI
Prepared Demo Stage 2	D2
Executed Demo	DX
Observation Post	OP
Landing Site	LS

TABLE B-20. <u>Points - control</u>. (subroles) (*X*P____ ****)

Icon	Code
Control:	C P
Air Control Point	AP
Check Point	CH
Contact Point	CP
Control Point	CN
Coordination Point	CO
Drop Point	DP
Search	MS
Entry Point	EP
General/Unspecified	GE
Linkup Point	LP
Passage Point	PP
Rally Point	RP
Release Point	RE
Rendezvous Point	RZ
Search Center	SC
Special Point	SP
Start Point	ST
Traffic Control Point	TC
Underwater	UW
Point Obstacle	PO
Trip Wire	TW

TABLE B-21. <u>Size (subrole)</u>. (*******_***)

Unit Size	Code
Squad	1
Section	2
Platoon/Detachment	3
Company/Battery/Troop	4
Battalion/squadron	5
Group or regiment	6
Brigade	7
Division	8
Corps	9
Army	A
Army Group or Front	В
Mission Command	Е
Area Support Group of a TAACOM	F
TAACOM	G
Theater Army	Н
Squad (task force)	J
Section (task force)	K
Platoon (task force)	L
Company (task force)	M
Battalion (task force)	N
Group (task force)	Р
Brigade (task force)	Q
Division (task force)	R
Corps (task force)	S

Note: These size codes are used inconjunction with surface (land units) only.

TABLE B-22. Battlefield Geometry.

TABLE B-22a. Affilitation.

Affiliation	Code
Hostile	H******
Friendly	F******

TABLE B-22b. <u>Dimension</u>.

Affiliation	Code
Other	*X******

TABLE B-22c. Position.

Position	Code
Present	**P******
Anticipated	**A******

TABLE B-22d. Basic Type.

Basic Type	Code	
Areas	***A******	
Boundary	***T*****	
Lines	***L******	
NBC	***N******	

TABLE B-22e. <u>Areas</u>. (*X*A____)

Area	Code	Area	Code
Concentric area	OC**	Area Usage	AU**
NBC effects	OE**	Assembley	**AS
Limited access	LA**	Concentration	**CO
Contaminated Bio	**BI	Drop zone	**DZ
Contaminated Chem	**CM	Dump	**DU
Contaminated Gas	**GA	Hide area	**HI
Impassable	**IM	Intermediate OBJ	**IO
Inundation	**IN	Key Terrain	**KT
Minefield	**MI	Landing zone	**LZ
Smoke area	**SM	Logistics area	**LG
Radioactive	**RA	Objective	**OB
Shelled or bombed	**SB	Smoke	**SM
Combat position	CP**	Shelled/bombed	**SB
Strong point	SP**	Unoccupied	**UN
Minefield Protective	MP**	Extraction Zone	**EZ
Minefield Tactical	MT**		

TABLE B-22f. Obstacles. (* $X*A_{---}$ ****)

Obstacle	Code	Obstacle	Code
Obstacles	OB**	Anti-Personnel Mine	**AP
Abatis	**AB	Anti-Tank Mine	**AM
Booby Trap	**BT	Directional Mine	**DM
Scatterable Mines	**SM	Cluster, Land Mine	**MC
Non-Explosive Anti-Tank	**AT	Land Mine, Unspecified	**MU
Anti-Tank Mine with Anti-Handling	**AH		

TABLE B-22g. <u>Lines (subroles)</u>. (*X*L____ ****)

Lines	Code
Front Lines	LF
Fortified Line	LR
Obstacle Line	LO
Phase/Coordination Lines	LP
Objective (OBJ)	OB
Bridgehead (BRHD)	BR
Firesupport Cordination Line (FSCL)	FS
No Fire Line (NFL)	NF
Coordination Fire Line (CFL)	CF
Restrictive Fire Line (RFL)	RF
Line of Departure/start Line (LD/SL)	LD
Phase or Coordination Line (PL)	PL
Report Line (RL)	RL
Final Coordination Line (CL)	FC
Holding Line (HL)	HL
Limit of Advance (LOA)	LA
Probable Line of Deployment (PLD)	PL
Line of Departure/Contact (LD/LC)	LC
Forward Combat Zone (FCA)	FZ
Forward Edge Battle Area (FEBA)	FB
Forward Line Enemy Troops (FLET)	FE
Forward Line Own Troops (FLOT)	OT
Main Supply Route (MSR)	MS
Rear Combat Zone (RCZ)	RC
Communication Zone (COMMZ)	CZ

TABLE B-22h. <u>Boundaries</u>. (*X*T**** _)

Unit Size	Code
Squad	1
Section	2
Platoon	3
Company	4
Battalion/squadron	5
Group or regiment	6
Brigade	7
Division	8
Corps	9
Army	A
Army Group or Front	В
Mission Command	Е
Area Support Group of a TAACOM	F
TAACOM	G
Theater Army	Н
Squad (task force)	J
Section (task force)	K
Platoon (task force)	L
Company (task force)	M
Battalion (task force)	N
Group (task force)	Р
Brigade (task force)	Q
Division (task force)	R
Corps (task force)	S

TABLE 22i. Firing position. (***P _ _)

Firing Position	Code
Firing position	***FP

TABLE B-23. <u>Fire Support</u>. (***F _ _ _ _ ****)

Embedded Icon	Code
Points:	FP _
Conventional/TRP	C
Special Target	N
Areas:	FA _
Rectangle	R
Circular	C
Polygon	P
Linear:	FL
Standard	L_
Linear Concentration	LC

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

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3. DOCUMENT TITLE COMMON \	WARFIGHTING SYM	BOLOGY, VERSION 1	
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